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Remarks

This is a complete response to the Office Action mailed September 20, 2005. At the outset, Applicant wishes to express appreciation to the Examiner for the thoughtfulness given to the merits in the pending Office Action. In response, these amendments and remarks are proper and do not add new matter, but more particularly point out and distinctly claim that which is the patentable subject matter in order to clarify Applicant's position that all claims are in condition for allowance.

Support for the amendments to claims 1 and 17 can be found at least in the carrier 204 of FIG. 4 enclosing the plurality of data storage devices 104 and thereby being altogether slidable toward the backplane 432 within the frontend opening 207. FIG. 5 illustrates the individual data storage devices being connected to the connectors 210 and thereby being electrically connected to the common connector 209. FIG. 5 also illustrates the alignment members 246 that matingly engage the backplane before the common connector electrically engages the backplane connector 434 (FIG. 10). See also in the specification, for example, para. [0036] and para. [0051].

Support for the amendments to claims 9 and 17 can be found at least in FIG. 12 and the discussions thereof wherein the backplane support 430 is fixed to the backend partition 422 and thereby unitarily removable therewith. See also in the specification, for example, para. [0060].

Rejection Under 35 USC 102(e)

Claims 1-3, 6-11, and 14-19 were rejected as being anticipated by Stamos '914.

This rejection is respectfully traversed.

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Claim 1

Stamos '914 cannot sustain a Section 102 rejection of amended claim 1 which more particularly points out and distinctly claims at least the following:

An array storage system comprising...a multiple device array comprising a carrier enclosing a plurality of data storage devices that are electrically connected to a common connector, whereas the carrier is operably slidingly engageable in the frontend partition toward the backplane to connect the common connector to the other side of the backplane, the multiple device array further comprising an alignment member extending outwardly from a leading end thereof to matingly engage the backplane at a first sliding disposition of the carrier in the frontend partition, thereby operably aligning the common connector with the backplane before contacting engagement occurs between the common connector and the backplane at a second sliding disposition of the carrier nearer the backplane.

(excerpt of claim 1, emphasis added)

Stamos '914 fails to disclose a carrier enclosing a plurality of data storage devices that are electrically connected to a common connector as in the present embodiments as claimed. Rather than physically grouping the plurality of data storage devices for electrically connecting them as in the present embodiments, Stamos '914 individually connects each of the data storage devices to the backplane. This is best seen in FIG. 6 of Stamos '914 and the description thereof, wherein fourteen individual connectors 44c are provided on the second side 42b of the backplane 42 for connecting the data storage devices. See, for example, "whereas connectors 44c, FIG. 6, are provided on a second side 42b of backplane 42 for connecting with hard drive modules 34." (Stamos col. 3 lines 52-54) Because Stamos '914 fails to disclose grouping the plurality of data storage devices in a carrier, it is likewise wholly silent regarding *the carrier is operably slidingly engageable*

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in the frontend partition, as in the present embodiments as claimed.

Stamos '914 also fails to disclose *the multiple device array further comprising an alignment member extending outwardly from a leading end thereof* as in the present embodiments as claimed. As the carrier (such as 204) of the present embodiments is inserted into the frontend opening, alignment members (such as 246) align the common connector (such as 209) with a mating connector on the backplane (such as 434). See, for example:

The carrier 204 preferably comprises one or more guide members that are adapted for aligning with mating features in the backplane to positively align the carrier 204 during insertion. In FIG. 5, for example, a three-point positive alignment is accomplished by providing two alignment pins 246 depending from the leading edge of the partition 212 and a third alignment pin 246 likewise depending from the cap 214.

(specification para. [0051])

Stamos '914 contrarily discloses aligning the removable backplane 42 to the front-end partition 28a, 28b. It does so by matingly engaging alignment members 29a, 29b that are fixed to the front-end partitions 28a, 28b, respectively, with alignment holes 41 in the backplane 42. In Stamos '914 the alignment members are fixed, thereby statically orienting the backplane 42 (and thus the connectors 44c) with respect to the slots through which the data storage devices 34 slide in connecting to the backplane 42. The alignment members of the present embodiments, however, are moveable, thereby dynamically orienting the carrier 204 with the backplane 432 before contacting engagement occurs between the common connector 209 and the backplane connector 434.

Accordingly, Stamos '914 cannot sustain a Section 102 rejection because it fails to identically disclose all the features of the present embodiments as recited in claim 1. The

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Applicant further respectfully submits that there is nothing in the art to cure the deficiency of Stamos '914 with regard to substantiating a prima facie case of obviousness under Section 103; there is no suggestion or motivation, neither in Stamos '914 nor within the knowledge of the skilled artisan, to modify the reference or to combine reference teachings to arrive at the subject matter of claim 1. Reconsideration and withdrawal of the rejection of claim 1 and the claims depending therefrom are respectfully requested.

Claim 9

Stamos '914 cannot sustain a Section 102 rejection of amended claim 9 which more particularly points out and distinctly claims at least the following:

*A shelf comprising...a removable backend partition...a
backplane support fixed to the backend partition....
(excerpt of claim 9, emphasis added)*

The present embodiments illustrated in FIG. 12 fixes the backplane support (such as 430) to the removable backend partition (such as 422). See, for example:

The shelf 206 further comprises a backplane support 430 adapted for supporting a backplane 432 between the frontend and backend partitions 416, 422 in a medial portion of the passage 402...FIG. 12 illustrates an arrangement wherein the backend partition 422 comprises the backplane support 430. In this arrangement the backplane support 430 is removed with the backend partition 422.
(specification para. [0059-0060], emphasis added)

Stamos '914 fails to disclose fixing the backplane 42 to the removable sub chassis 46. As discussed above, Stamos '914 discloses locating the backplane 42 by matingly aligning the alignment members 29a, 29b with the respective alignment holes 41, and abuttingly engaging the backplane 42 against the stop members 40. The sub chassis 46

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pressingly engages against the opposing side of the backplane 42 by attachment of the fasteners 60, thereby compressingly sandwiching the backplane 42 between the frontend partition 28a, 28b and the removable sub-chassis 46.

From experience, Applicant believes that the arrangement of Stamos '914 creates a problem that is resolved by the present embodiments. This is attested to in a Declaration submitted herewith by an inventor of the present embodiments as claimed. The problem lies in part in the following statement made in Stamos '914:

A benefit of this structure is that if it becomes necessary to replace backplane 42, the sub-chassis 46 may be removed including the components 38 and 36 which unplug from their respective connectors 44a and 44b.
(Stamos '914, col. 4 lines 11-14, emphasis added)

Recall that the backplane 42 of Stamos '914 is not fixed to any supporting structure; rather, it is compressingly sandwiched between the front-end partition 28a, 28b and the sub-chassis 46. A problem is likely to arise when the sub-chassis 46 is removed with components still connected to opposing sides of the backplane 42. That is, the backplane 42 is frictionally engaged with components in the sub-chassis 46 on one side, and likewise frictionally engaged with the data storage devices 34 on the other side. Especially when these opposing frictional forces are not substantially coplanar, the backplane 42 is freely displaceable to compromise the alignment between components and their respective backplane connectors. Under these conditions, when the components do disengage they are likely to do so by damaging the fragile contactors making up the connectors. The present embodiments resolve this problem by positively supporting the backplane during removal of the backend partition, such that the backplane only disengages from components on one side thereof, and is not free to displace so as to compromise the

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alignment of the mating connectors.

Accordingly, Stamos '914 cannot sustain a Section 102 rejection because it fails to identically disclose all the features of the present embodiments as recited in claim 9. The Applicant further respectfully submits that there is nothing in the art to cure the deficiency of Stamos '914 with regard to substantiating a prima facie case of obviousness under Section 103; there is no suggestion or motivation, neither in Stamos '914 nor within the knowledge of the skilled artisan, to modify the reference or to combine reference teachings to arrive at the subject matter of claim 9. Reconsideration and withdrawal of the rejection of claim 9 and the claims depending therefrom are respectfully requested.

Claim 17

Stamos '914 cannot sustain a Section 102 rejection of amended claim 17 which more particularly points out and distinctly claims at least the following:

A method for electrically connecting components comprising attaching a backplane to a leading end of a backend partition; inserting the backend partition in the backend opening; inserting a first component having an alignment member on a leading end thereof to a first insertion depth in the frontend opening to matingly engage the alignment member with the backplane before electrically engaging the first component with the backplane; inserting the first component to a second insertion depth greater than the first insertion depth to electrically engage the first component with the backplane....
(excerpt of claim 17, emphasis added)

As discussed above, Stamos '914 fails to disclose attaching the backplane to the leading end of the removable backend partition. Also as discussed above, Stamos '914 fails to disclose inserting the carrier so as to engage the alignment member with the

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backplane before electrically engaging the multiple device array with the backplane.

Accordingly, Stamos '914 cannot sustain a Section 102 rejection because it fails to identically disclose all the features of the present embodiments as recited in claim 17. The Applicant further respectfully submits that there is nothing in the art to cure the deficiency of Stamos '914 with regard to substantiating a prima facie case of obviousness under Section 103; there is no suggestion or motivation, neither in Stamos '914 nor within the knowledge of the skilled artisan, to modify the reference or to combine reference teachings to arrive at the subject matter of claim 17. Reconsideration and withdrawal of the rejection of claim 17 and the claims depending therefrom are respectfully requested.

Rejection Under 35 USC 103(a)

Claims 4, 5, 12, and 13 were rejected as unpatentable over Stamos '914 in view of Baar '551. This rejection is respectfully traversed because these claims depend from an allowable independent claim, for reasons above, and provide additional limitations thereto. Reconsideration and withdrawal of the present rejection are respectfully requested.

Rejection Under 35 USC 103(a)

Claim 20 was rejected as unpatentable over Stamos '914 in view of Wells, III '563. This rejection is respectfully traversed because this claim depends from an allowable independent claim, for reasons above, and provides additional limitations thereto. Reconsideration and withdrawal of the present rejection are respectfully requested.

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Conclusion

This is a complete response to the Office Action mailed September 20, 2005.

Applicant has also filed herewith a Request for Telephone Interview to be held before the Examiner makes the next action on the merits. The interview is necessary to resolve any issues preventing allowance of all pending claims in view of these amendments and remarks, and to otherwise generally facilitate progress of this case on the merits.

Should any questions arise concerning this response, the Examiner is encouraged to contact the below listed Attorneys.

Respectfully submitted,

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